

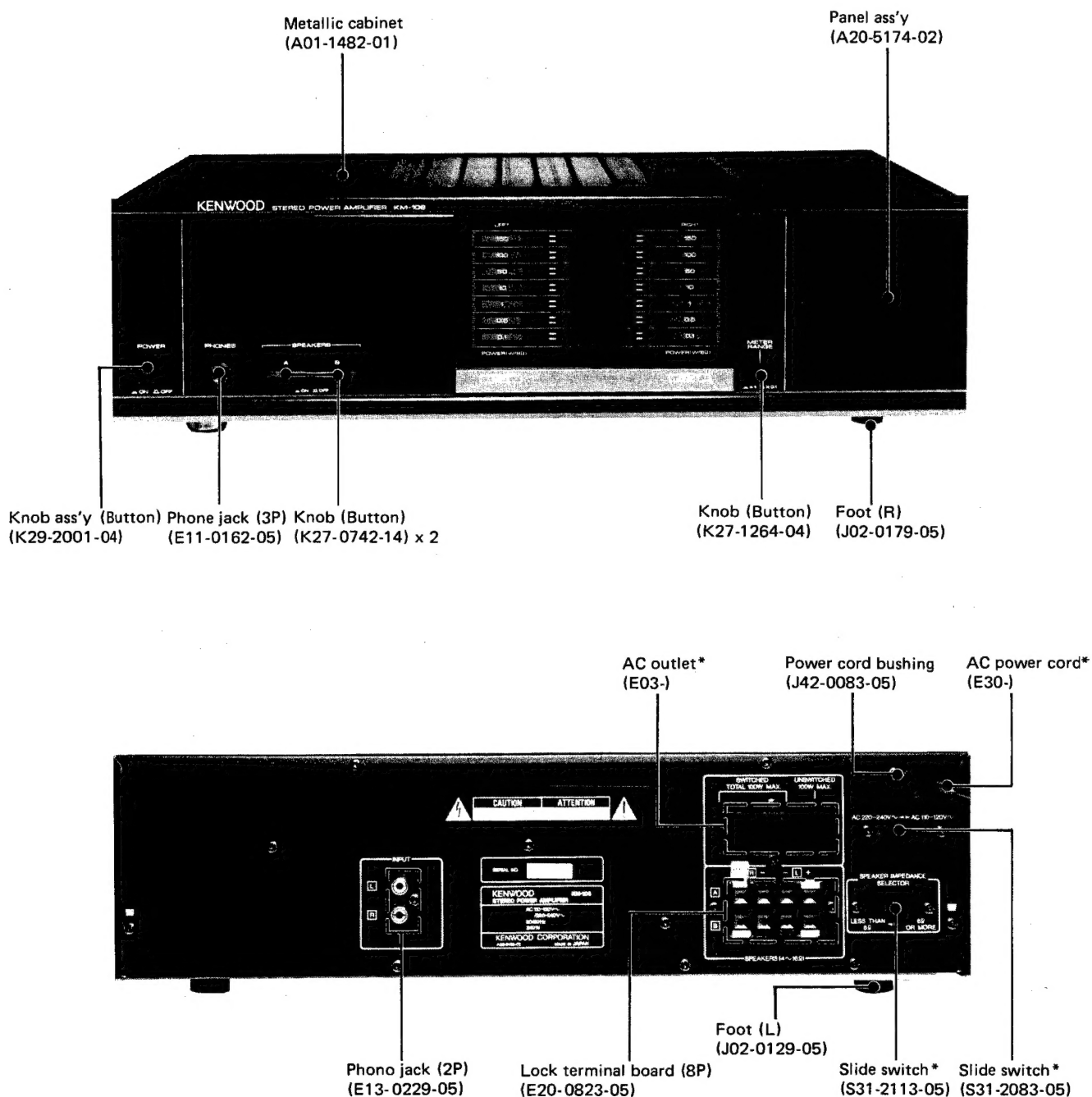
STEREO POWER AMPLIFIER

# KM-106

## SERVICE MANUAL

# KENWOOD

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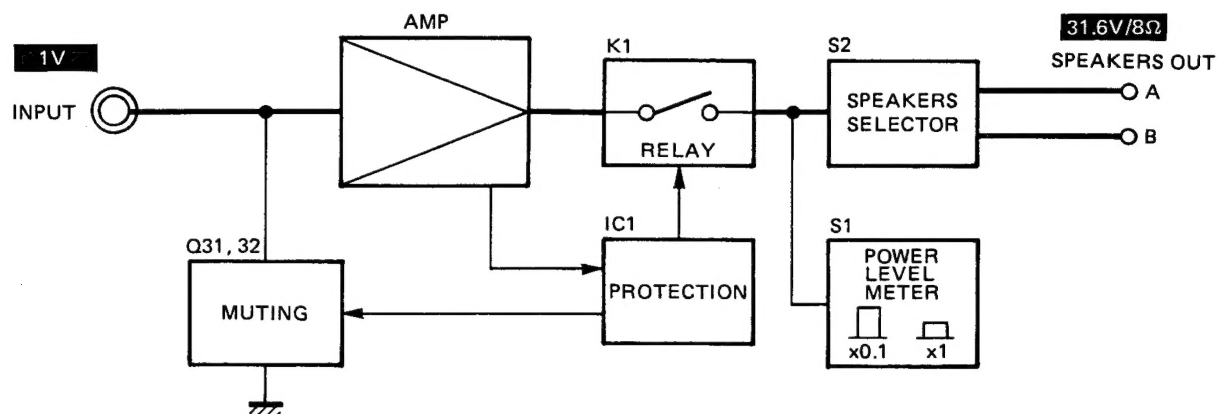


\*Refer to parts list on page 10.

Note : Specifications is written on page 4.

## BLOCK DIAGRAM/CIRCUIT DESCRIPTION

### BLOCK LEVEL DIAGRAM



### CIRCUIT DESCRIPTION

#### Description of Components

##### POWER AMPLIFIER (X07-227X-XX)

Components	Application/function	Operation/condition/compatibility
Q1~4	Initial stage differential amplifier	Low noise.
Q5~8	2nd stage differential amplifier	
Q9, 10	3rd stage amplifier	Class A cascade current amplifier.
Q11, 12	3rd stage amplifier	Class A cascade voltage amplifier.
Q13, 14	Bias temperature compensation	
Q15~18	Class B driver	
Q19~22	Power amplifier	
Q23~30	Current protection	
Q31, 32	Input muting	
Q33	Relay driver IC	Current protection.
Q34	Constant voltage control	
Q35, 36	Muting driver	
Q37~40	LED driver	

ADJUSTMENT/REGLAGE/ABGLEICH

SPECIFICATIONS

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	—	Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION	—	Connecter un voltmètre de CC sur CP1 (G) CP2 (D)	VOLUME: 0	VR1 (G) VR2 (D)	9~18mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS- EINSTELLUNG	AUSGANGS- EINSTELLUNG	VORSTARKER EINSTELLUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM	—	Einen Gleichspannungs- messer über CP1 (L) CP2 (R) anschießen.	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

Rated Power Output

125 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both channels driven (Except U.S.A. and Canada)  
(8 ohms, 1 kHz).....135 W + 135 W  
(4 ohms, 1 kHz).....110 W + 110 W

Music Power Output (8 ohms)  
(Except USA and Canada) .....250 W + 250 W

Total Harmonic Distortion  
20 Hz to 20,000 Hz .....0.03% at rated power into  
8 ohms  
0.015% at 1/2 rated power  
into 8 ohms  
1 kHz.....0.002% at 1/2 rated power  
into 8 ohms

Intermodulation Distortion  
(60 Hz:7 kHz = 4:1).....0.002% at rated power into  
8 ohms

Frequency Response .....5 Hz to 200 kHz, +0, -3 dB

Power Bandwidth  
(0.2 % THD, 8 ohms) .....10 Hz to 50 kHz

Signal-to-Noise Ratio.....120 dB

Damping Factor .....35 at 50 Hz

General

Power Consumption .....4 A (USA and Canada)  
240 W (Others)

AC Outlets.....Switched 2, Unswitched 1  
(Except some area)

Dimensions .....W 420 mm (16-9/16")  
H 123 mm (4-13/16")  
D 269 mm (10-9/16")

Weight (Net) .....7.9 kg (17.4 lb)

Note :

We follow a policy of continuous advancements in developments.  
For this reason specifications may be changed without notice.

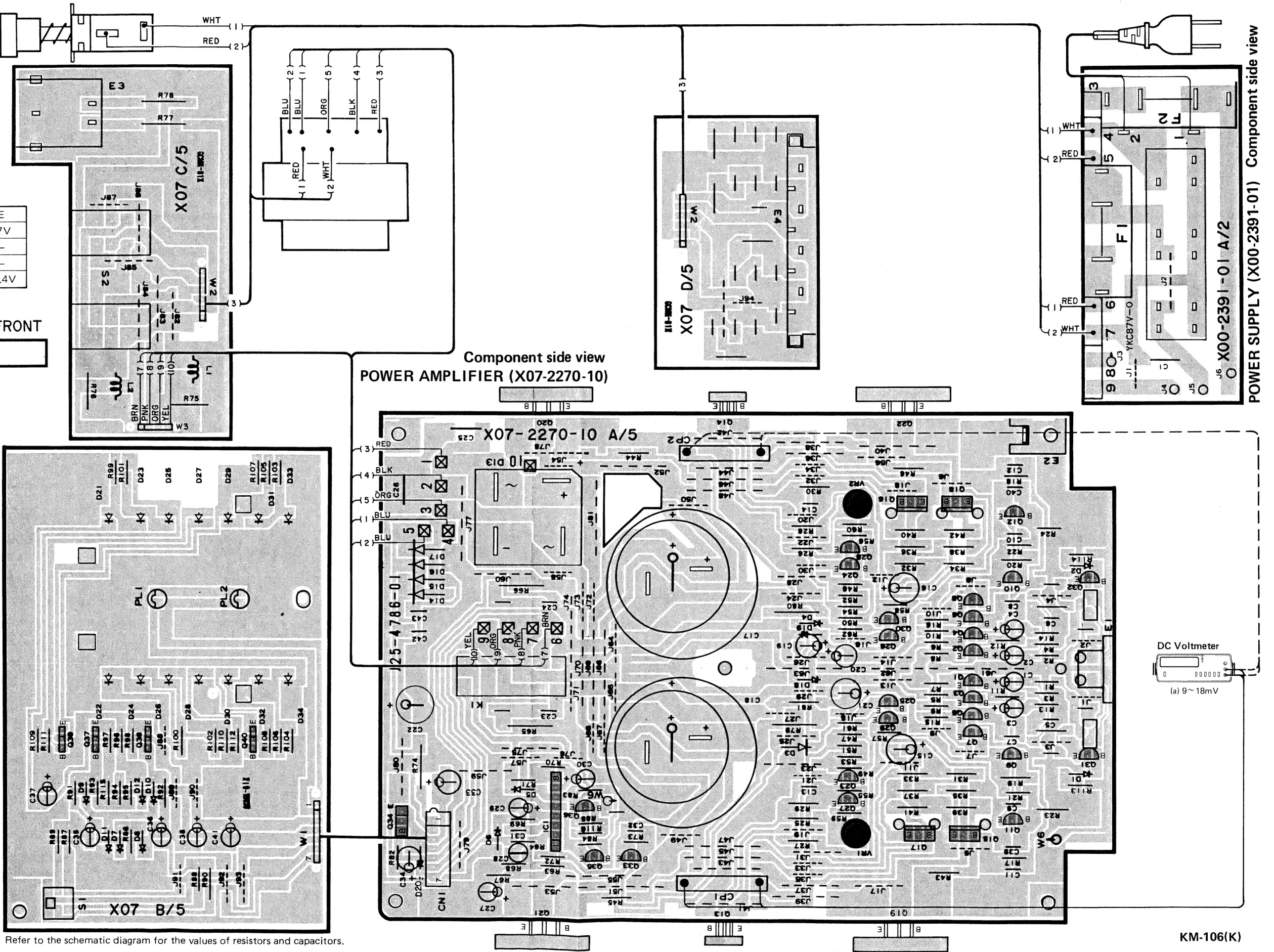
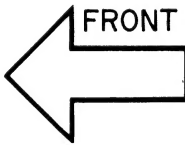
PC BOARD

(X07-2270-10)

	B	C	E
Q5,Q7	-	-	17V
Q17,Q18	-	-68V	-
Q21,Q22	-	-68V	-
Q34	-	34V	23.4V

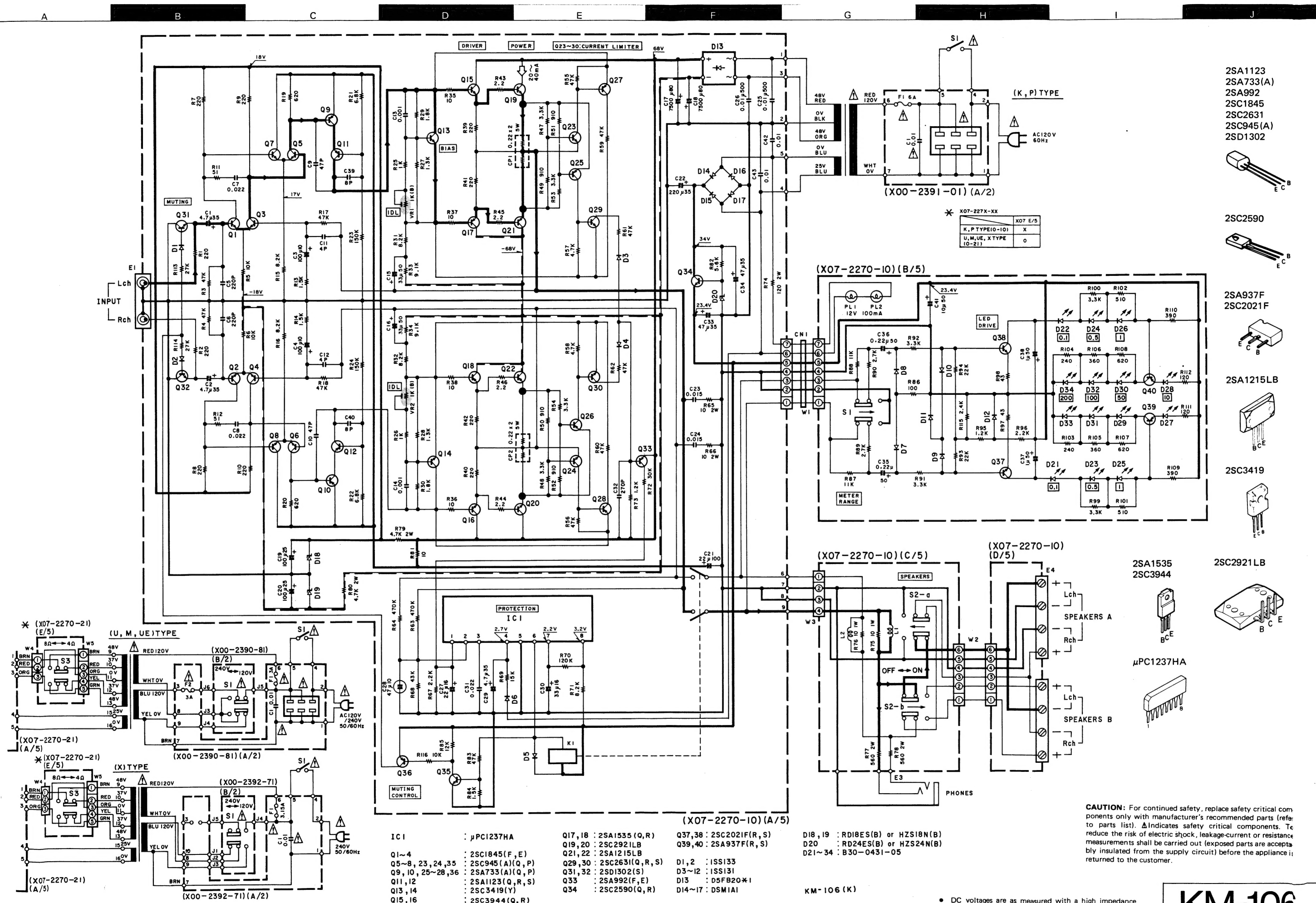
IC1

4	2.7V
7	2.2V
8	3.2V



KM-106(K)

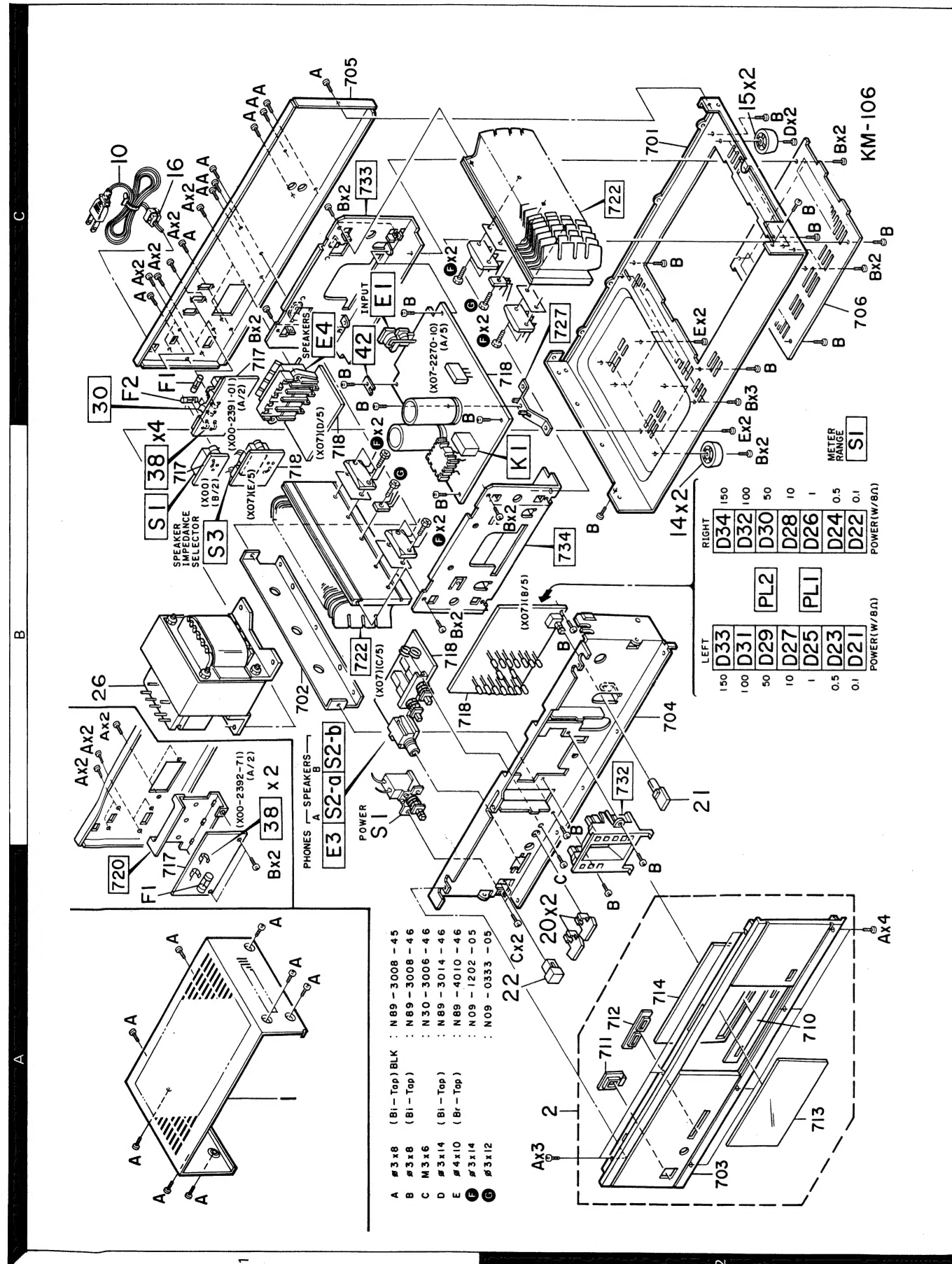




**KM-106**  
**KENWOOD**

# KM-106 KM-106

## EXPLODED VIEW



## PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Desti- nation 仕向	Re- marks 備考
KM-106						
1	1A		A01-1482-01	METALLIC CABINET		
2	2A	*	A20-5174-02	PANEL ASSY		
			B46-0092-03	WARRANTY CARD	K	
			B46-0094-03	WARRANTY CARD	UE	
			B46-0095-03	WARRANTY CARD	UE	
			B46-0096-13	WARRANTY CARD	X	
			B46-0121-03	WARRANTY CARD	P	
		*	B50-6831-00	INSTRUCTION MANUAL (ENGLISH)		
		*	B50-6832-00	INSTRUCTION MANUAL (FRENCH)	PMX	
		*	B50-6833-00	INSTRUCTION MANUAL (SPANISH)	M	
		*	B50-6834-00	INSTRUCTION MANUAL (ARABIC)	M	
			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
			B58-0269-04	CAUTION CARD	K	
			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
			B59-0092-00	SERVICE DIRECTORY	UE	
10	1C		E30-0812-05	AC POWER CORD	UMUE	
10	1C		E30-0974-05	AC POWER CORD	KP	
10	1C		E30-1341-05	AC POWER CORD	X	
F1	1C		F05-3121-05	FUSE (SEMKO) (250V T3.15A)	X	
F1	1C		F05-6027-05	FUSE (UL) (250V 6A)	KP	
F1	1A		F05-3022-05	FUSE (250V 3A)	UMUE	
		*	H01-7565-04	ITEM CARTON CASE		
			H10-1892-02	POLYSTYRENE FOAMED FIXTURE		
			H10-1893-02	POLYSTYRENE FOAMED FIXTURE		
			H25-0223-04	PROTECTION BAG (750X350X0.03)		
			H25-0232-04	PROTECTION BAG (235X350X0.03)		
14	2B		J02-0129-05	FOOT (L)		
15	2C		J02-0179-05	FOOT (R)		
16	1C		J42-0083-05	POWER CORD BUSHING		
			J61-0307-05	WIRE BAND		
20	2A		K27-0742-14	KNOB (BUTTON) SPEAKERS		
21	2B		K27-1264-04	KNOB (BUTTON) METER RANGE		
22	2A		K29-2001-04	KNOB ASSY (BUTTON) POWER		
26	1B	*	L01-7911-05	POWER TRANSFORMER	KP	
26	1B	*	L01-7915-05	POWER TRANSFORMER	UMUEX	
S1	1B		S40-1094-05	PUSH SWITCH (POWER TYPE)		
POWER SUPPLY UNIT (X00-239X-XX) 1-01: K,P 0-81: U,M,UE 2-71: X						
C1			C91-0023-05	CERAMIC 0.01UF AC250V	UMUE	
C1			C91-0647-05	CERAMIC 0.01UF P	KPX	
30	1C	*	E03-0077-05	AC OUTLET	UMUE	
30	1C	*	E03-0078-05	AC OUTLET	KP	
38	1B		J13-0041-05	FUSE CLIP	KPUMUE	
38	1B		J13-0054-05	FUSE CLIP	X	
			J61-0307-05	WIRE BAND	X	
S1	2B		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUEX	
POWER AMPLIFIER UNIT (X07-2270-XX) 0-10: K,P 0-21: U,M,UE,X						
D21 -34	2B	*	B30-0431-05	LED(LN21CPH) METER		
PL1 ,2	2B	*	B30-1140-05	LAMP (12V,0.1A)		

E: Scandinavia & Europe K: USA P: Canada W: Europe

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

△ indicates safety critical components.

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C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 ,10			CE04KW1V4R7M CE04KW1A101M CC45FSL1H221J CF92FV1H223J CC45FSL1H470J	ELECTR0 4.7UF 35WV ELECTR0 100UF 10WV CERAMIC 220PF J MF 0.022UF J CERAMIC 47PF J		
C11 ,12 C13 ,14 C15 ,16 C17 ,18 C19 ,20		*	CC45FSL1H040C CF92FV1H102J CE04KW1H330M C90-1318-05 CE04KW1E101M	CERAMIC 4.0PF C MF 1000PF J ELECTR0 33UF 50WV ELECTR0 7500UF 80WV ELECTR0 100UF 25WV		
C21 C22 C23 ,24 C25 ,26 C27		*	CE04KW2A220M CE04KW1V221M CF92FV1H153J CK45FE2H103P CE04KW1C220M	ELECTR0 22UF 100WV ELECTR0 220UF 35WV MF 0.015UF J CERAMIC 0.010UF P ELECTR0 22UF 16WV		
C28 C29 C30 C31 C32		*	C90-1334-05 CE04KW1V4R7M CE04KW1C330M CF92FV1H223J CC45FSL1H271J	NP-ELEC 47UF 10WV ELECTR0 4.7UF 35WV ELECTR0 33UF 16WV MF 0.022UF J CERAMIC 270PF J		
C33 ,34 C35 ,36 C37 ,38 C39 ,40 C41			CE04KW1V470M CE04KW1HR22M CE04KW1H010M CC45FSL1H080D CE04KW1H100M	ELECTR0 47UF 35WV ELECTR0 0.22UF 50WV ELECTR0 1.0UF 50WV CERAMIC 8.0PF D ELECTR0 10UF 50WV		
C42 ,43			CK45FF1H103Z	CERAMIC 0.010UF Z		
42 E1 E3 E4	1C 1C 1A 1C		E23-0125-05 E13-0229-05 E11-0162-05 E20-0823-05	TERMINAL PHONE JACK(2P) INPUT PHONE JACK(3P) LOCK TERMINAL BOARD(8P)SPKRS		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
F G	1B,1C 1B,1C		N09-1202-05 N09-0333-05	TAPPING SCREW (Ø3X14) TAPPING SCREW (Ø3X12)		
CP1 ,2 R19 ,20 R25 ,26 R27 ,28 R29 ,30			R90-0187-05 RD14AB2E621J RD14AB2E102J RD14AB2E132J RD14AB2E182J	MULTI-COMP 0.22X2 K 5W FL-PROOF RD 620 J 1/4W FL-PROOF RD 1.0K J 1/4W FL-PROOF RD 1.3K J 1/4W FL-PROOF RD 1.8K J 1/4W		
R31 ,32 R33 ,34 R35 -38 R39 -42 R43 -46		*	RD14AB2E822J RD14AB2E912J RD14AB2E100J RD14AB2E221J RD14AB2E2R2J	FL-PROOF RD 8.2K J 1/4W FL-PROOF RD 9.1K J 1/4W FL-PROOF RD 10 J 1/4W FL-PROOF RD 220 J 1/4W FL-PROOF RD 2.2 J 1/4W		
R65 R66 R74 R75 R76			RS14DB3D100J RS14KB3D100J RS14DB3D121J RS14KB3A100J RS14DB3A100J	FL-PROOF RS 10 J 2W FL-PROOF RS 10 J 2W FL-PROOF RS 120 J 2W FL-PROOF RS 10 J 1W FL-PROOF RS 10 J 1W		
R77 ,78 R79 ,80 RB1 VR1 ,2		*	RS14DB3D561J RS14DB3D472J RD14GB2E100J R12-1066-05	FL-PROOF RS 560 J 2W FL-PROOF RS 4.7K J 2W FL-PROOF RD 10 J 1/4W TRIMMING POT. (1K) IDLE		

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K1	2B		S51-2078-05	MAGNETIC RELAY	UMUEX	
S1	2B		S40-2323-05	PUSH SWITCH (METER RANGE)		
S2	1B		S42-2138-05	MULTIPLE PUSH SWITCH(SPEAKERS)		
S3	1B	*	S31-2113-05	SLIDE SWITCH (SPKR IMP SEL)		
D1 ,2			1SS133	DIODE		
D3 -12			1SS131	DIODE		
D13			D5FB20*1	DIODE		
D14 -17			DSM1A1	DIODE		
D18 ,19		*	HZS18N(B)	ZENER DIODE		
D18 ,19		*	RD18ES(B)	ZENER DIODE		
D20		*	HZS24N(B)	ZENER DIODE		
D20		*	RD24ES(B)	ZENER DIODE		
IC1			UPC1237HA	IC (POWER AMP)		
Q1 -4			2SC1845(F,E)	TRANSISTOR		
Q5 -8			2SC945(A) (Q,P)	TRANSISTOR		
Q9 ,10			2SA733(A) (Q,P)	TRANSISTOR		
Q11 ,12			2SA1123(Q,R,S)	TRANSISTOR		
Q13 ,14			2SC3419(Y)	TRANSISTOR		
Q15 ,16		*	2SC3944(Q,R)	TRANSISTOR		
Q17 ,18		*	2SA1535(Q,R)	TRANSISTOR		
Q19 ,20		*	2SC2921LB	TRANSISTOR		
Q21 ,22		*	2SA1215LB	TRANSISTOR		
Q23			2SC945(A) (Q,P)	TRANSISTOR		
Q24			2SC945(A) (Q,P)	TRANSISTOR		
Q25 ,26			2SA733(A) (Q,P)	TRANSISTOR		
Q27			2SA733(A) (Q,P)	TRANSISTOR		
Q28			2SA733(A) (Q,P)	TRANSISTOR		
Q29 ,30			2SC2631(Q,R,S)	TRANSISTOR		
Q31 ,32			2SD1302(S)	TRANSISTOR		
Q33			2SA992(F,E)	TRANSISTOR		
Q34			2SC259D(Q,R)	TRANSISTOR		
Q35			2SC945(A) (Q,P)	TRANSISTOR		
Q36			2SA733(A) (Q,P)	TRANSISTOR		
Q37 ,38		*	2SC2021F(R,S)	TRANSISTOR		
Q39 ,40		*	2SA937F(R,S)	TRANSISTOR		

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**Note : Specifications is written on page 4.**

### Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

 indicates safety critical components.

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